

100A/US

-19-

**CLAIMS:**

1. A method of predicting a quantity of a resource required for the deployment of a software application on a computing system, comprising the steps of providing historical resource utilisation data for deployment of software applications on computing systems, providing a value for a parameter of the computing system relevant to resource utilisation, providing a value for a parameter of the software application relevant to resource utilisation, and utilising the historical resource utilisation data and parameter values to predict the quantity of the resource required for deployment of the software application.
2. A method in accordance with claim 1, wherein the historical resource utilisation data includes parameter values of the computing systems and parameter values of the software applications historically deployed.
3. A method in accordance with claim 2, wherein the historical resource utilisation data includes statistics, the statistics being values of the quantities of resources used in the historical deployment.
4. A method in accordance with claim 3, wherein the historical resource utilisation data includes at least two parameter/statistic pairs for historical deployments.
5. A method in accordance with claim 3, wherein the relationship between the parameter and statistic pairs is derived by applying a statistical model to the parameter/statistic pairs.
6. A method in accordance with claim 4, wherein a relationship is predicted between a statistic and  $n$  distinct parameters, where  $n$  is any integer greater than or equal to two, comprising the further step of obtaining  $m_n$  different values for each parameter  $P_n$ , and further obtaining at least  $m_1 m_2 \dots m_n$  values of a statistic for each distinct combination of parameter values, where  $m_1 m_2 \dots m_n$  represents the product of values  $m_1, m_2, \dots, m_n$ .
7. A method in accordance with claim 5, wherein the relationship between the statistic and the parameter or  $n$

**AMENDED SHEET**

108A/US

-20-

parameters is determined by assuming that the relationship between the parameter/statistic pairs takes the form of a straight line.

8. A method in accordance with claim 6, wherein the equation of the straight line is calculated using co-ordinate geometry.

9. A method in accordance with claim 7, wherein said statistical model mathematically takes the form:

$$S = S_a + \frac{(S_c - S_a)}{(c - a)}(P_k - a)$$

10. A computing system arranged to facilitate the prediction of a statistic for use in the prediction of resources required for the deployment of a software application, comprising, a database arranged to provide historical resource utilisation data for deployment of software applications on computing systems, means for providing a value for a parameter of the computing system relevant to resource utilisation, and a value for a parameter of the software application relevant to resource utilisation, and computation means arranged to utilise the historical resource utilisation data and parameter values to predict the quantity of the resource required for deployment of the software application.

11. A system in accordance with claim 10, wherein the historical resource utilisation data includes parameter values of the computing systems and parameter values of the software applications historically deployed.

12. A system in accordance with claim 11, wherein the historical resource utilisation data includes statistics, the statistics being values of the quantities of resources used in the historical deployment.

13. A system in accordance with claim 12, wherein the historical resource utilisation data includes at least two parameter/statistic pairs for historical deployments.

14. A system in accordance with claim 13, wherein the

AMENDED SHEET

1PBA/US

-21-

relationship between the parameter and statistic pairs is derived by applying a statistical model to the parameter/statistic pairs.

15. A system in accordance with claim 14, wherein a relationship is predicted between a statistic and  $n$  distinct parameters, where  $n$  is any integer greater than or equal to two, comprising the further step of obtaining  $m_n$  different values for each parameter  $P_n$ , and further obtaining at least  $m_1 m_2 \dots m_n$  values of a statistic for each distinct combination of parameter values, where  $m_1 m_2 \dots m_n$  represents the product of values  $m_1, m_2, \dots, m_n$ .

16. A system in accordance with claim 15, wherein the relationship between the statistic and the parameter or  $n$  parameters is determined by assuming that the relationship between the parameter/statistic pairs takes the form of a straight line.

17. A system in accordance with claim 16, wherein the equation of the straight line is calculated using co-ordinate geometry.

18. A system in accordance with claim 17, wherein said equation involves a statistical model which mathematically takes takes the form:

$$S = S_a + \frac{(S_c - S_a)}{(c - a)}(P_x - a)$$

19. A computer program arranged, when loaded on a computing system, to implement the method of claim 1.

20. A computer readable medium providing a computer program in accordance with claim 19.

21. A method for building a model for use in the prediction of resources required for the deployment of a software application, the method comprising the steps of collecting historical resource utilisation data for deployment of software applications on computing systems, and storing the historical resource usage data.

22. A statistical model comprising historical resource utilisation data for deployment of software applications on computing systems, said data being stored in a database.

AMENDED SHEET